

LPDES PERMIT NO. LA0082511, AI No. 6164

LPDES FACT SHEET and RATIONALE
FOR THE DRAFT LOUISIANA POLLUTANT DISCHARGE ELIMINATION SYSTEM
(LPDES) PERMIT TO DISCHARGE TO WATERS OF LOUISIANA

- I. Company/Facility Name: Westlake Chemical Corporation
Westlake Petrochemicals Complex
P.O. Box 3508
Sulphur, LA 70664
- II. Issuing Office: Louisiana Department of Environmental Quality
(LDEQ)
Office of Environmental Services
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Date Prepared: April 30, 2009

IV. Permit Action/Status:

A. Reason For Permit Action:

Proposed consolidation of three existing Louisiana Pollutant Discharge Elimination System (LPDES) permits into one permit for a 5-year term following regulations promulgated at LAC 33:IX.2711/40 CFR 122.46*.

LAC 33:IX Citations: Unless otherwise stated, citations to LAC 33:IX refer to promulgated regulations listed at Louisiana Administrative Code, Title 33, Part IX.

40 CFR Citations: Unless otherwise stated, citations to 40 CFR refer to promulgated regulations listed at Title 40, Code of Federal Regulations in accordance with the dates specified at LAC 33:IX.2301, 4901, and 4903.

- B. NPDES permit - NPDES permit effective date: NA
NPDES permit expiration date: NA
EPA has not retained enforcement authority.
- C. LPDES permit - LPDES permit effective date: February 1, 2004.
LPDES permit expiration date: January 31, 2009.

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- D. The renewal application was received on January 30, 2009. Application addenda were dated February 13, 2009 and March 20, 2009. Additional information used in permit development was received via e-mail on April 28, 2009, May 4, 2009, June 16, 2009, and July 9, 2009 (replaces the April 28, 2009 e-mail).

V. Facility Information:

- A. Location - 900 Louisiana Highway 108 in Sulphur.
- B. Applicant Activity -

Westlake Chemical Corporation's Westlake Petrochemicals Complex is an existing chemical complex which produces styrene, ethylene, and polyethylene at the following three co-located facilities:

1. The Styrene Monomer Unit, currently permitted under LPDES Permit LA0087157, produces 600 million pounds per year of high quality styrene monomer.
2. The Ethylene Production Facility (Petro I & II) and the Co-Products Area, currently permitted under LPDES Permit LA0082511, produces 2.9 billion pounds per year of ethylene as feedstock for other Westlake facilities that produce low density polyethylene, vinyl chloride monomer, and styrene monomer.
3. The Poly III Polyethylene Unit, currently permitted under LPDES Permit LA0103004 produces 850 million pounds per year of polyethylene.

Westlake Chemical Corporation owns the three facilities listed above and has requested that these LPDES permits be combined into a single consolidated permit, under LA0082511. This request has been granted. Therefore, the limitations and requirements have been established for process wastewater, sanitary wastewater, utility wastewater, stormwater, and miscellaneous other operational wastewaters inclusive of all three facilities. Westlake Chemical Corporation also proposed further consolidation by reducing the number of permitted outfalls from sixteen (16) to five (5).

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Table 1 includes a list of the current outfalls and the type/source of the wastewater being discharged under each of the LPDES permits.

TABLE 1 CURRENT OUTFALLS	
STYRENE - LA0087157	
Outfall 001	Combined wastewaters from Outfalls 101, 102, and 103
Outfall 101	Process wastewater and contaminated stormwater
Outfall 102	Utility wastewaters
Outfall 103	Sanitary wastewater
Outfall 002	Uncontaminated stormwater
POLY III - LA0103004	
Outfall 001	Process wastewaters, utility wastewater, process stormwater, wastewaters from Outfall 101
Outfall 101	Sanitary wastewater
Outfall 003	Uncontaminated stormwater, post first flush from process, and miscellaneous utility water
ETHYLENE (PETRO I & II) - LA0082511	
Outfall 001	Combined wastewaters from Outfalls 101, 201, and 301
Outfall 101	Sanitary wastewater
Outfall 201	Petro I process wastewater and utility wastewater
Outfall 301	Petro II process wastewater and utility wastewater
Outfall 002	Demineralization water, miscellaneous utility wastewater, and non-process area stormwater
Outfall 003	Non-process area stormwater
Outfall 004	Non-process area stormwater
Outfall 005	Demineralization water, miscellaneous utility wastewater, and non-process area stormwater

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Table 2 includes a listing of the new outfall numbers, the type/source of the wastewater being discharged, and the outfalls that will be eliminated by the consolidation.

TABLE 2 CONSOLIDATED PERMIT OUTFALLS		
Outfall Designation	Source of Wastewater	Outfalls Eliminated
Outfall 001	Styrene process wastewater, contaminated stormwater, and utility.	Styrene - 001, 101, and 102
	Poly III process wastewater, utility wastewater, process stormwater, and wastewaters from Outfall 101.	Poly III - 001
	Petro I & II process wastewater and utility wastewater.	Petro I & II - 001, 201, and 301
Outfall 101	Petro I & II sanitary wastewater	stays the same
Outfall 401	Styrene sanitary wastewater	new number, replaces Styrene Outfall 103
Outfall 501	Poly III sanitary wastewater	new number, replaces Poly III Outfall 101
Outfall 006	Petro I & II demin water, misc utility wastewaters, and non-process area stormwater	Petro I & II - 002
	Petro I & II non-process area stormwater	Petro I & II - 003
	Petro I & II non-process area stormwater	Petro I & II - 004
	Petro I & II demin water, misc utility wastewater, and non-process area stormwater	Petro I & II - 005
	Styrene uncontaminated stormwater	Styrene - 002
	Poly III uncontaminated stormwater, post first flush from process, and miscellaneous utility water	Poly III - 003

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Additionally, Westlake Chemical Corporation has requested that a phased approach be taken into account for the Petro II Feed Flexibility and Expansion Project that has been constructed, but has not yet been put into service. This request has been granted. Therefore, Phase I has been written to be consistent with current operations and Phase II has been written to include additional wastewater associated with the Petro Feed Flexibility Project.

- C. Technology Basis - (40 CFR Chapter 1, Subchapter N/Parts 401, 405-415, and 417-471 have been adopted by reference at LAC 33:IX.4903)

Guideline

Organic Chemicals, Plastics,
 and Synthetic Fibers
 Process Flow

Phase I - 1.0716 MGD

Phase II - 1.1603 MGD

Reference

40 CFR 414, Subparts D (NSPS),
 F, I, and J.

Other sources of technology based limits:

LDEQ Stormwater Guidance, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

Louisiana Water Quality Management Plan for Sanitary Dischargers.

LDEQ Sanitary General Permits.

Light Commercial General Permit, LAG480000.

Best Professional Judgment.

- D. Fee Rate -
1. Fee Rating Facility Type: major
 2. Complexity Type: VI
 3. Wastewater Type: II
 4. SIC code: 2869, 2821, and 2865

- E. Continuous Facility Effluent Flow

Phase I - 1.8733 MGD

Phase II - 2.1521 MGD

- VI. Receiving Waters: Calcasieu River (Outfall 001) and Indian Marais (Outfall 006)

Indian Marais (Outfall 006)

1. River Basin: Calcasieu River, Segment No. 030301

2. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

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Calcasieu River (Outfall 001)

1. TSS (15%), mg/L: 10.5
2. Average Hardness, mg/L CaCO_3 : 400
3. Critical Flow, cfs: 2874
4. Mixing Zone Fraction: 0.3333
5. Harmonic Mean Flow, cfs: 8622
6. River Basin: Calcasieu River, Segment No. 030301
7. Designated Uses:

The designated uses are primary contact recreation, secondary contact recreation, and fish and wildlife propagation.

Information based on the following: LAC 33:IX Chapter 11. Hardness and 15% TSS data come from monitoring station 94 in Bayou D'Inde near Lake Charles, Louisiana, at the confluence of Bayou D'Inde and the Calcasieu Ship Channel, 1.0 mile northwest of Lock Point, listed in Hardness and TSS Data for All LDEQ Ambient Stations for the Period of Record as of March 1998, LeBlanc. This information was presented in a memorandum dated April 23, 2009 from Todd Franklin to Jenniffer Sheppard (See Appendix C).

VII. Outfall Information:

Outfall 001 (Phases I and II)

- A. Type of wastewater - the continuous discharge of the combined wastewaters from the Styrene, Poly III, and Petro I & II Units including: treated process wastewaters; utility wastewaters; process area stormwater; treated sanitary wastewater from Internal Outfalls 101, 401, and 501; and miscellaneous wastewater including but not limited to general facility washdown, steam condensate, eye wash and safety shower station, firewater, and pump seal water.

- ♦ Styrene Unit - the continuous discharge of treated process wastewater and process area stormwater (including contaminated stormwater transported to the Styrene Unit for treatment from the Westlake Styrene Marine Terminal, LPDES Permit LA0089362); de minimis amounts of miscellaneous wastewaters including equipment wash water, miscellaneous process wastewater streams, wastewater from vacuum trucks or portable tanks, slop oil tank decant water, diked area and other area sump wastewater; utility wastewater including cooling tower blowdown, boiler blowdown, and demineralization unit wastewater; and treated sanitary wastewater from Internal Outfall 401 (former Styrene Internal Outfall 103).

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- ♦ Poly III Unit - the continuous discharge of treated process wastewater consisting of hopper car wash wastewater, silo wash wastewater, oily water sewer wastewater, and process area stormwater; utility wastewater (consisting of fire water, cooling tower blowdown, utility stations wastewater, soft water regeneration backwash, and filter backflush) from the polyethylene plant; and treated sanitary wastewater from Internal Outfall 501 (former Poly III Outfall 002).
- ♦ Petro I & II - the continuous discharge of treated process wastewater from the Petro I and II Units' source treatment processes; process area stormwater; chemical sewer wastewaters; washdown sewer wastewater; LPDE off-spec wastewaters from Westlake Polymers LLC (LPDES permit LA0071382); washout station wastewater; cooling tower blowdown; boiler blowdown; demineralization wastewater; boiler feed regeneration water; and treated sanitary wastewater from Internal Outfall 101.

Note: Any of the wastewaters contained or managed by the units identified above may be transferred internally and/or treated amongst the units as necessary.

- B. Location - at the point of discharge from the consolidated outfall sample point after commingling of wastewaters from the Petro I, Petro II, Styrene, and Poly III Units and prior to discharging to the Calcasieu River at Latitude 30°10'14.12", Longitude 93°21'18.71".

Flow Monitoring - The daily flow value shall be equal to the arithmetic sum of the flow values monitored within each of the Units. This includes the continuous flow monitoring from the Styrene Unit, the continuous flow monitoring from the Poly III Unit, the continuous flow monitoring from the Petro I Unit, and the continuous flow monitoring from the Petro II Unit, occurring during the same 24-hour sampling period.

Flow Location 1 - The continuous flow monitoring for wastewaters from the Styrene Unit is accomplished with a flow measuring device for the combined wastewater discharge from the Styrene Unit.

Flow Location 2 - The continuous flow monitoring for wastewaters from the Poly III Unit is accomplished with flow measuring devices for the pellet sump wastewater, the CPI water, the sanitary wastewater discharge, and the cooling tower blowdown from the Poly III Unit.

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Flow Location 3 - The continuous flow monitoring for wastewaters from the Petro I Unit is accomplished with flow measuring devices for the biological treatment unit discharge, the sanitary wastewater discharge, and the cooling tower blowdown from the Petro I Unit.

Flow Location 4 - The continuous flow monitoring for wastewaters from the Petro II Unit is accomplished with a flow measuring device for the combined wastewater discharge from the Petro II Unit.

C. Treatment - treatment of Styrene process and miscellaneous wastewaters consists of:

- CPI separator
- Steam stripping
- Carbon filtration
- Neutralization

Treatment - treatment of utility wastewaters from the Styrene unit consists of:

- Neutralization
- Dechlorination

Treatment - treatment of wastewaters from Poly III consists of:

- Oil/water separator (for oily water sewer wastewater only)
- Pellet sump, for sedimentation (for hopper car wash wastewater, silo wash wastewater, process area stormwater, utility stations wastewater, and soft water regeneration backwash and filter backflush).

Treatment - treatment of Petro I & II process wastewaters consists of:

- Equalization
- CPI oil/water separator
- Induced gas floatation (IGF)
- Steam stripper
- Dissolved air floatation (DAF)
- Bio-oxidation
- Chlorine dioxide

Treatment - treatment of utility wastewaters from the Petro I & II units consists of:

- Neutralization
- Dechlorination

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Treatment - treatment of demineralization wastewater neutralizer sump from the Petro II unit consists of:

- Neutralization

D. Flow - Phase I Continuous Flow 1.8733 MGD.

Process Wastewater*	1.0716 MGD
Utility Wastewater*	0.7881 MGD
Sanitary Wastewater*	0.0136 MGD

* Specific component waste streams are defined at Appendix A-1.

Flow - Phase II Continuous Flow 2.1521 MGD.

Process Wastewater*	1.1603 MGD
Utility Wastewater*	0.9782 MGD
Sanitary Wastewater*	0.0136 MGD

* Specific component waste streams are defined at Appendix A-2.

E. Receiving waters - Calcasieu River.

F. Basin and segment - Calcasieu River Basin, Segment 030301.

Internal Outfall 101

A. Type of wastewater - the intermittent discharge of treated sanitary wastewater from the Petro I & II Units.

B. Location - at the point of discharge from the sewage treatment facility, prior to combining with any other wastewaters and/or Final Outfall 001, at Latitude 30°10'48.01", Longitude 93°21'22.27".

C. Treatment - treatment of sanitary wastewaters consists of:
 - biological oxidation
 - chlorination

D. Flow - Intermittent, (estimated flow) 0.0093 MGD.

E. Receiving waters - Calcasieu River via Final Outfall 001.

F. Basin and segment - Calcasieu River Basin, Segment 030301.

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Internal Outfall 401

- A. Type of wastewater - the intermittent discharge of treated sanitary wastewater from the Styrene Plant.
- B. Location - at the point of discharge from the sewage treatment facility, prior to combining with any other wastewaters and/or Final Outfall 001, at Latitude 30°10'35.27", Longitude 93°21'29.74".
- C. Treatment - treatment of sanitary wastewaters consists of:
 - biological oxidation
 - chlorination
- D. Flow - Intermittent, (estimated flow) 0.004 MGD.
- E. Receiving waters - Calcasieu River via Final Outfall 001.
- F. Basin and segment - Calcasieu River Basin, Segment 030301.

Internal Outfall 501

- A. Type of wastewater - the intermittent discharge of treated sanitary wastewater from the Poly III Plant.
- B. Location - at the point of discharge from the sewage treatment facility, prior to combining with any other wastewaters and/or Final Outfall 001, at Latitude 30°10'28.65", Longitude 93°21'39.40".
- C. Treatment - treatment of sanitary wastewaters consists of:
 - biological oxidation
 - chlorination
- D. Flow - Intermittent, (estimated flow) 0.0003 MGD.
- E. Receiving waters - Calcasieu River via Final Outfall 001.
- F. Basin and segment - Calcasieu River Basin, Segment 030301.

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Outfall 006

- A. Type of wastewater - the intermittent discharge of uncontaminated, non-process area stormwater runoff from throughout the Westlake Petrochemicals Complex including the secondary containment area around the hexane and butane tanks near the Co-Products Storage area; utility fire test water overflow; firewater pump cooling and test water; excess clarifier/utility water; demineralization unit overflow; excess post-first flush stormwater runoff from the process areas at the Petro II and Poly III Units; steam condensate; lay down yard; contractor areas; and other miscellaneous non-contact wastewater and wash waters.
- B. Location - at the point of discharge prior to commingling with other wastewaters and entering Indian Marais at Latitude 30°10'21.71", Longitude 93°21'17.03".
- C. Treatment - None.
- D. Flow - Intermittent.
- E. Receiving waters - Indian Marais.
- F. Basin and segment - Calcasieu River Basin, Segment 030301.

VIII. Proposed Permit Limits:

The specific effluent limitations and/or conditions will be found in the draft permit. Development and calculation of permit limits are detailed in the Permit Limit Rationale section below.

Summary of Proposed Changes From the Current LPDES Permit:

- A. Westlake Chemical Corporation's Westlake Petrochemicals Complex has requested consolidation of three existing LPDES permits into a single permit. Upon issuance, the consolidated permit will regulate process wastewater, sanitary wastewater, utility wastewater, stormwater, and miscellaneous other operational wastewaters from the Styrene Monomer Unit currently permitted under LPDES Permit LA0087157, the Poly III Polyethylene Unit currently permitted under LPDES Permit LA0103004, and from the Ethylene Production Facility (Petro I & II) currently permitted under LPDES Permit LA0082511.
- B. Westlake Chemical Corporation's Westlake Petrochemicals Complex has also consolidated sampling points for many of the outfalls present at this complex. This consolidation reduces the number of outfalls from sixteen (16) to five (5).

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- C. Outfall 001 (Phases I & II)- Newly created consolidated outfall that eliminates the following outfalls: Styrene - 001, 101, and 102, Poly III - 001, and Petro I & II - 001, 201, and 301.

This new outfall is for the continuous discharge of the combined wastewaters from the Styrene, Poly III, and Petro I & II Units including: treated process wastewaters; utility wastewaters; process area stormwater; treated sanitary wastewater from Internal Outfalls 101, 401, and 501; and miscellaneous wastewater including but not limited to general facility washdown, steam condensate, eye wash and safety shower station, firewater, and pump seal water.

- D. Outfall 001 (Phases I & II)- Quarterly chronic toxicity testing for a marine environment has been established at the consolidated outfall point in accordance with the LDEQ/OES Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, Water Quality Management Plan Volume 3. Version 6 (April 16, 2008), and the Best Professional Judgment (BPJ) of the reviewer.

The dilution series for both phases were very similar, therefore, the reviewer used the more stringent series to apply to both phases. The dilution series established is 0.15%, 0.20%, 0.26%, 0.35%, and 0.46% with a critical dilution of 0.35%.

- E. Outfall 001 (Phases I & II) - the free available chlorine limitations and monitoring requirements previously established in the Petro I & II LPDES permit have been deleted. These limitations were originally established in a December 4, 1989 NPDES permit for the Petro I & II site due to cooling tower blowdown discharges. A review of the analytical results submitted with the consolidated permit application indicate that Total Residual Chlorine (which is a combination of combined residual chlorine and free available chlorine) is present at levels well below criteria causing or contributing to toxicity from chlorine. The application reported a Total Residual Chlorine value less than 30 µg/L. The Minimum Quantification level (MQL) for Total Residual Chlorine is 100 µg/L. Therefore, monitoring for this parameter is not warranted and has been deleted.

- F. Outfall 001 (Phases I & II) - Bromoform reporting requirements previously established in the Petro I & II LPDES permit have been deleted. These requirements were originally established due to the addition of sodium hypobromite as a biocide in the cooling towers. A review of the analytical results submitted with the consolidated permit application indicates that bromoform is present at levels well below water quality standards. The application reported a bromoform value of less than 5 µg/L. The Minimum Quantification level (MQL) for Bromoform is 10 µg/L. Therefore, monitoring for this parameter is not warranted and has been deleted.

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- G. Outfall 001 (Phases I & II) - The most stringent monitoring frequency for each parameter from the consolidated permits has been retained.
- H. Outfall 001 (Phases I & II) - TMDL loadings assigned to the three Westlake facilities have been combined and are now applied at the consolidated outfall. This does not result in any increase to the TMDL loadings.

Parameters	Styrene Unit lbs/day	Poly III Unit lbs/day	Petro I & II Unit lbs/day	Consolidated Waste Load Allocations lbs/day
Copper	0.227	0.185	1.29	1.702
Mercury	0.00157	0.00127	0.00891	0.01175
Benzo(a) anthracene	0.0153	0.0124	0.087	0.1147
Benzo(a) pyrene	0.0153	0.0124	0.087	0.1147

- I. Outfall 001 (Phase I) - Limitations were calculated in accordance with the OCPSF Guidelines at 40 CFR 414 (Subparts D, F, I, and J), with the exception of water quality limited parameters. The Styrene Unit contributes 0.109 MGD of Subpart J process wastewater that does not go through biological treatment, 0.004 MGD of sanitary wastewater, and 0.113 MGD of utility wastewater. The Poly III unit contributes 0.2113 MGD of Subpart J process wastewater that does not go through biological treatment, 0.0003 MGD of sanitary wastewater, and 0.1465 MGD of utility wastewater. The Petro I Unit contributes 0.5458 MGD of Subpart I process wastewater that goes through biological treatment, 0.0093 MGD of sanitary wastewater (combined Petro I and II), and 0.3022 MGD of utility wastewater. The Petro II Unit contributes 0.2055 MGD of Subpart I process wastewater and 0.2264 MGD of utility wastewater. Additionally, 16% of the total Westlake Complex production falls under OCPSF Subpart D for Thermoplastic Resins and 84% under Subpart F for Commodity Organics.
- J. Outfall 001 (Phase II) - Limitations were calculated in accordance with the OCPSF Guidelines at 40 CFR 414 (Subparts D, F, I, and J), with the exception of water quality limited parameters. The Styrene Unit contributes 0.109 MGD of Subpart J process wastewater that does not go through biological treatment, 0.004 MGD of sanitary wastewater, and 0.113 MGD of utility wastewater. The Poly III unit contributes 0.2113 MGD of Subpart J process wastewater that does not go through biological treatment, 0.0003 MGD of sanitary wastewater,

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and 0.1465 MGD of utility wastewater. The Petro I Unit contributes 0.5458 MGD of Subpart I process wastewater that goes through biological treatment, 0.0093 MGD of sanitary wastewater (combined Petro I and II), and 0.3022 MGD of utility wastewater. The Petro II Unit contributes 0.2942 MGD of Subpart I process wastewater and 0.4165 MGD of utility wastewater. Additionally, 14% of the total Westlake Complex production falls under OCPSF Subpart D for Thermoplastic Resins and 86% under Subpart F for Commodity Organics.

- K. Internal Outfall 101 - This outfall establishes a monthly average and daily maximum reporting requirement for flow and a monthly average limitation of 200 colonies/100 ml and daily maximum limitation of 400 colonies/ 100 ml for fecal coliform. The monitoring frequency for both parameters has been established at 1/quarter. These requirements are consistent with the Sanitary General Permit, LAG540000, for flows between 0.005 MGD and 0.025 MGD.

- L. Internal Outfall 401 - This is a newly renumbered outfall for sanitary wastewater. The Outfall 401 designation replaces Styrene Outfall 103.

This outfall establishes a monthly average and daily maximum reporting requirement for flow and a monthly average limitation of 200 colonies/100 ml and daily maximum limitation of 400 colonies/ 100 ml for fecal coliform. The monitoring frequency for both parameters has been established at 1/6 months. These requirements are consistent with the Sanitary General Permit, LAG530000, for flows less than 0.005 MGD.

- M. Internal Outfall 501 - This is a newly renumbered outfall for sanitary wastewater. The Outfall 501 designation replaces Poly III Outfall 101.

This outfall establishes a monthly average and daily maximum reporting requirement for flow and a monthly average limitation of 200 colonies/100 ml and daily maximum limitation of 400 colonies/ 100 ml for fecal coliform. The monitoring frequency for both parameters has been established at 1/6 months. These requirements are consistent with the Sanitary General Permit, LAG530000, for flows less than 0.005 MGD.

- N. Outfall 006 - This is a newly created outfall that eliminates the following outfalls: Styrene - 002, Poly III - 003, and Petro I & II - 002, 003, 004, and 005.

This new outfall is for the intermittent discharge of uncontaminated, non-process area stormwater runoff from throughout the Westlake Petrochemicals Complex including the secondary

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containment area around the hexane and butane tanks near the Co-Products Storage area; utility fire test water overflow; firewater pump cooling and test water; excess clarifier/utility water; demineralization unit overflow; excess post-first flush stormwater runoff from the process areas at the Petro II and Poly III Units; steam condensate; lay down yard; contractor areas; and other miscellaneous non-contact wastewater and wash waters.

- O. A Minimum Quantification Level (MQL) evaluation was done for the parameters listed in the Calcasieu Estuary Toxics TMDL. The evaluation was done to determine compliance with the waste load allocations (WLAs) established in the TMDL and to ensure state water quality standards are being met. Based on Westlake's flow and the assigned WLAs, it has been determined that site specific MQLs are not necessary to ensure compliance and therefore, the MQLs listed in Part II.K of the permit are sufficient at this time.

IX. Permit Limit Rationale:

The following section sets forth the principal facts and the significant factual, legal, methodological, and policy questions considered in preparing the draft permit. Also set forth are any calculations or other explanations of the derivation of specific effluent limitations and conditions, including a citation to the applicable effluent limitation guideline or performance standard provisions as required under LAC 33:IX.2707/40 CFR Part 122.44 and reasons why they are applicable or an explanation of how the alternate effluent limitations were developed.

A. TECHNOLOGY-BASED VERSUS WATER QUALITY STANDARDS-BASED EFFLUENT LIMITATIONS AND CONDITIONS

Following regulations promulgated at LAC 33:IX.2707.L.2.b/40 CFR Part 122.44(l)(2)(ii), the draft permit limits are based on either technology-based effluent limits pursuant to LAC 33:IX.2707.A/40 CFR Part 122.44(a) or on State water quality standards and requirements pursuant to LAC 33:IX.2707.D/40 CFR Part 122.44(d), whichever are more stringent.

B. TECHNOLOGY-BASED EFFLUENT LIMITATIONS, CONDITIONS, AND MONITORING REQUIREMENTS

Regulations promulgated at LAC 33:IX.2707.A/40 CFR Part 122.44(a) require technology-based effluent limitations to be placed in LPDES permits based on effluent limitations guidelines where applicable, on BPJ (best professional judgment) in the absence of guidelines, or on a combination of the two. The following is a rationale for types of wastewaters. See outfall information descriptions for associated outfall(s) in Section VII. Regulations also require permits to establish monitoring requirements to yield data representative of

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the monitored activity [LAC 33:IX.2715/40 CFR 122.48(b)] and to assure compliance with permit limitations [LAC 33:IX.2707.I./40 CFR 122.44(I)].

1. Outfall 001 - Process Wastewaters

*Outfall 001 (Phase I) - the continuous discharge of the combined wastewaters from the Styrene, Poly III, and Petro I & II Units including: treated process wastewaters; utility wastewaters; process area stormwater; treated sanitary wastewater from Internal Outfalls 101, 401, and 501; and miscellaneous wastewater including but not limited to general facility washdown, steam condensate, eye wash and safety shower station, firewater, and pump seal water.

Westlake Chemical Corporation, Westlake Petrochemicals Complex is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) and New Source Performance Standards (NSPS) effluent limitation guidelines listed below:

<u>Manufacturing Operation</u>	<u>Guideline(s)</u>
Organic chemical manufacturing	40 CFR 414, Subpart(s) D, F, I, and J.

Subpart D = Thermoplastic Resins Chemicals makes up 16% of the production at Westlake Chemical Corporation, Westlake Petrochemicals Complex. New Source Performance Standards (NSPS) are applicable to the discharges from the Poly III Unit.

Subpart F = Commodity Organic Chemicals makes up 84% of the production at Westlake Chemical Corporation, Westlake Petrochemicals Complex. This Subpart is applicable to the discharges from Styrene and Petro I & II.

Subpart I = Direct Discharge Point Sources That Use End-Of-Pipe Biological Treatment.

Subpart J = Direct Discharge Point Sources That Does Not Use End-Of-Pipe Biological Treatment.

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The following wastestreams and flows were used in limitation calculation:

<u>Process</u>	Subpart I <u>Flow, MGD</u>	Subpart J <u>Flow, MGD</u>	Total Combined <u>Flow, MGD</u>
Styrene Unit	---	0.1090	0.1090
Poly III Unit	---	0.2113	0.2113
Petro I Unit	0.5458	---	0.5458
<u>Petro II Unit</u>	<u>0.2055</u>	<u>---</u>	<u>0.2055</u>
TOTAL PROCESS	0.7513	0.3203	1.0716
<u>Sanitary</u>			
Styrene Unit	---	0.0040	0.0040
Poly III Unit	---	0.0003	0.0003
<u>Petro I & II Unit</u>	<u>0.0093</u>	<u>---</u>	<u>0.0093</u>
TOTAL SANITARY	0.0093	0.0043	0.0136
<u>Utility</u>			
Styrene Unit CTBLWDN	---	0.1130	0.1130
Poly III Unit CTBLWDN	---	0.1465	0.1465
Petro I Unit CTBLWDN	0.2690	---	0.2690
Petro I Unit Demin	0.0332	---	0.0332
Petro II Unit CTBLWDN	0.1851	---	0.1851
<u>Petro II Unit Demin</u>	<u>0.0413</u>	<u>---</u>	<u>0.0413</u>
TOTAL PROCESS	0.5286	0.2595	0.7881
 TOTAL FLOWS	 1.2892	 0.5841	 1.8733

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	Continuous
pH Range Excursions No. of Events >60 minutes	---	--	---	0 (*1)	Continuous
pH Range Excursions Monthly Total Accumulated Time in Minutes	---	--	---	446 (*1)	Continuous
pH (Standard Units)	---	---	Report (*1) (Min)	Report (*1) (Max)	Continuous

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PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
BOD ₅	311	824	---	---	1/week
TSS	480	1549	---	---	1/week
Oil & Grease	156	234	---	---	2/month
Total Copper (*2)	---	1.702	---	---	1/quarter
Total Mercury (*2)	---	0.01175	---	---	1/quarter
Acrylonitrile	0.85	2.14	---	---	1/year
Benzene	0.38	1.21	---	---	1/week
Carbon Tetrachloride	0.49	1.25	---	---	1/year
Chlorobenzene	0.47	1.19	---	---	1/year
Chloroethane	0.95	2.47	---	---	1/year
Chloroform	0.43	1.16	---	---	1/month
1,2-Dichlorobenzene	1.01	3.14	---	---	1/year
1,3-Dichlorobenzene	0.57	1.29	---	---	1/year
1,4-Dichlorobenzene	0.47	1.19	---	---	1/year
1,1-Dichloroethane	0.20	0.53	---	---	1/year
1,2-Dichloroethane	0.91	2.86	---	---	1/year
1,1-Dichloroethylene	0.16	0.32	---	---	1/year
1,2-trans-Dichloroethylene	0.20	0.51	---	---	1/year
1,2-Dichloropropane	1.48	3.56	---	---	1/year
1,3-Dichloropropylene	0.71	2.40	---	---	1/year
Ethylbenzene	0.58	1.69	---	---	1/month
Methyl Chloride	0.83	1.98	---	---	1/year
Methylene Chloride	0.35	1.01	---	---	1/year

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PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Tetrachloroethylene	0.28	0.79	---	---	1/year
Toluene	0.24	0.70	---	---	1/quarter
1,1,1-Trichloroethane	0.19	0.50	---	---	1/year
1,1,2-Trichloroethane	0.22	0.68	---	---	1/year
Trichloroethylene	0.20	0.52	---	---	1/year
Vinyl Chloride	0.91	2.14	---	---	1/year
2-Chlorophenol	0.19	0.61	---	---	1/year
2,4-Dichlorophenol	0.24	0.70	---	---	1/year
2,4-Dimethylphenol	0.16	0.35	---	---	1/year
4,6-Dinitro-o-Cresol	0.70	2.48	---	---	1/year
2,4-Dinitrophenol	3.67	12.23	---	---	1/year
2-Nitrophenol	0.43	1.05	---	---	1/year
4-Nitrophenol	0.88	2.32	---	---	1/year
Phenol	0.14	0.29	---	---	1/week
Acenaphthene	0.19	0.50	---	---	1/week
Acenaphthylene	0.19	0.50	---	---	1/year
Anthracene	0.19	0.50	---	---	1/year
Benzo (a) anthracene(*2)	0.1147	---	---	---	1/quarter
Benzo (a) pyrene(*2)	0.1147	---	---	---	1/quarter
3,4-Benzofluoranthene	0.20	0.51	---	---	1/year
Benzo(k) fluoranthene	0.19	0.50	---	---	1/year
Bis(2- ethylhexyl)phthalate	0.90	2.44	---	---	1/year

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PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Chrysene	0.19	0.50	---	---	1/year
Diethyl phthalate	0.63	1.57	---	---	1/year
Dimethyl phthalate	0.17	0.42	---	---	1/year
Di-n-butyl phthalate	0.22	0.47	---	---	1/year
2,4-Dinitrotoluene	0.71	1.79	---	---	1/year
2,6-Dinitrotoluene	1.60	4.02	---	---	1/year
Fluoranthene	0.22	0.57	---	---	1/year
Fluorene	0.19	0.50	---	---	1/week
Hexachlorobenzene (*3)	0.012	0.028	---	---	1/quarter
Hexachlorobutadiene	0.50	1.32	---	---	1/6 months
Hexachloroethane	0.66	2.46	---	---	1/year
Naphthalene	0.19	0.50	---	---	1/week
Nitrobenzene	6.14	17.53	---	---	1/year
Phenanthrene	0.19	0.50	---	---	1/week
Pyrene	0.21	0.55	---	---	1/year
1,2,4-Trichlorobenzene	0.95	3.00	---	---	1/year

(*1) The pH shall be within a range of 6.0 - 9.0 Standard Units at all times subject to the continuous monitoring pH range excursion provision in Part II, Paragraph I of the draft permit.

(*2) TMDL Wasteload Allocations. See Water Quality Section and Appendix B-1.

(*3) Water Quality Based Effluent Limitation. See Water Quality Section and Appendix B-1.

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Calculations and basis of permit limitations are found at Appendix A-1 and associated appendices. See below for site-specific considerations.

Site-Specific Consideration(s) for Outfall 001 Phase I

Please note, for the purpose of the section below, the following information references the three Westlake facilities considered in this permit consolidation, their current LPDES permit effective dates, and how they will be identified in the discussion to follow.

- ◆ LA0087157 - Issued to the Styrene Monomer Facility with an effective date of September 1, 2008. This facility will be referred to as Styrene.
- ◆ LA0103004 - Issued to the Poly III Facility with an effective date of May 1, 2004. This facility will be referred to as Poly III.
- ◆ LA0082511 - Issued to the Ethylene (Petro I and II) Facility with an effective date of February 4, 2004 and major modification effective date of May 1, 2007. This facility will be referred to as Petro I & II.

All monitoring frequencies in this section reflect the most stringent frequency previously established for each parameter in the Styrene, Poly III, Petro I & II permits, unless otherwise stated.

Flow - this requirement has been established in accordance with LAC 33:IX.2707.I.1.b. The continuous monitoring frequency requirement has been retained from the current Styrene, Poly III, and Petro I & II LPDES permits.

Flow monitoring occurs at the following locations:

Flow Location 1 - the continuous flow monitoring for wastewaters from the Styrene Unit is accomplished with a flow measuring device for the combined wastewater discharge from the Styrene Unit.

Flow Location 2 - the continuous flow monitoring for wastewaters from the Poly III Unit is accomplished with flow measuring devices for the pellet sump wastewater, the CPI water, the sanitary wastewater discharge, and the cooling tower blowdown from the Poly III Unit.

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Flow Location 3 - the continuous flow monitoring for wastewaters from the Petro I Unit is accomplished with flow measuring devices for the biological treatment unit discharge, the sanitary wastewater discharge, and the cooling tower blowdown from the Petro I Unit.

Flow Location 4 - the continuous flow monitoring for wastewaters from the Petro II Unit is accomplished with a flow measuring device for the combined wastewater discharge from the Petro II Unit.

pH - this requirement has been established in accordance with LAC 33:IX.1113.C.1. The continuous monitoring frequency requirement has been retained from the current Styrene, Poly III, and Petro I & II LPDES permits.

BOD₅ and TSS - monthly average and daily maximum limitations have been established in accordance with OCPSF Guidelines under 40 CFR 414, Subparts D (NSPS) and F with a process wastewater flow of 1.0716 MGD. Additionally, allocations have been granted for sanitary wastewater and utility wastewaters based on best professional judgment. Sanitary allocations are applied to a flow of 0.0136 MGD and based on a 30 mg/L monthly average concentration and 45 mg/L daily maximum concentration for BOD₅ and TSS. Utility wastewater allocations are applied to a flow of 0.7881 MGD and based on a 0.25 fraction of the OCPSF concentrations (6.24 mg/L monthly average and 16.64 mg/L daily maximum, 10.24 mg/L monthly average and 33.26 mg/L daily maximum) for BOD₅ and TSS, respectively. The methodology for establishing BOD₅ and TSS allocations for sanitary and utility wastewaters is consistent with the Styrene and Poly III LPDES permits and has been established in the consolidated permit based on best professional judgment. The monitoring frequency of 1/week has been retained for both parameters based on the frequency established in the current Styrene and Petro I & II LPDES permits.

Benzene, Phenol, Acenaphthene, Fluorene, Naphthalene, and Phenanthrene - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.7513 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for these parameters has been retained at 1/week based on the frequencies established in the current Petro I & II LPDES permit.

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Oil & Grease - this requirement has been retained from the current Poly III LPDES permit due to the potential for Oil & Grease to be discharged to the receiving waterbody. The limitations have been calculated based on concentrations of 10 mg/L monthly average and 15 mg/L daily maximum and are applied to the entire outfall flow of 1.8733 MGD. The monitoring frequency has been retained at 2/month based on the frequency established in the current Poly III LPDES permit.

Ethylbenzene and Chloroform - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.7513 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for these parameters has been retained at 1/month based on the frequency established in the current Styrene LPDES permit.

Total Copper, Total Mercury, Benzo(a)anthracene, and Benzo(a)pyrene - loadings have been established at this outfall per the Upper Calcasieu Estuary TMDL, issued in the Federal Register on June 13, 2002. A monitoring frequency of 1/quarter has been established for these parameters based on the sampling requirements established in the TMDL.

Hexachlorobenzene - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.7513 MGD flow under Subpart I and 0.3203 MGD for Subpart J. Additionally, water quality based effluent limitations were established using guidance procedures presented in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. The monitoring frequency for this parameter has been retained at 1/quarter based on the frequency established in the current Petro I & II LPDES permit and is consistent with the EPA Region VI recommendation that all water quality based effluent limitations receive a 1/quarter (or more frequent) monitoring frequency.

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Toluene - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.7513 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for this parameter has been retained at 1/quarter based on the frequency established in the current Styrene LPDES permit.

Hexachlorobutadiene - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.7513 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for this parameter has been retained at 1/6 months based on the frequency established in the current Poly III LPDES permit.

Acrylonitrile, Carbon Tetrachloride, Chlorobenzene, Chloroethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropylyene, Methyl Chloride, Methylene Chloride, Tetrachloroethylene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, 2-Chlorophenol, 2,4-Dichlorophenol, 2,4-Dimethylphenol, 4,6-Dinitro-o-Cresol, 2,4-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol, Acenaphthylene, Anthracene, 3,4-Benzofluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Fluoranthene, Hexachloroethane, Nitrobenzene, Pyrene, and 1,2,4-Trichlorobenzene - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.7513 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for these parameters has been retained at 1/year based on the frequencies established in the current Styrene, Poly III, and Petro I & II LPDES permits.

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*Outfall 001 (Phase II) - the continuous discharge of the combined wastewaters from the Styrene, Poly III, and Petro I & II Units including: treated process wastewaters; utility wastewaters; process area stormwater; treated sanitary wastewater from Internal Outfalls 101, 401, and 501; and miscellaneous wastewater including but not limited to general facility washdown, steam condensate, eye wash and safety shower station, firewater, and pump seal water.

Westlake Chemical Corporation, Westlake Petrochemicals Complex is subject to Best Practicable Control Technology Currently Available (BPT) and Best Available Technology Economically Achievable (BAT) and New Source Performance Standards (NSPS) effluent limitation guidelines listed below:

<u>Manufacturing Operation</u>	<u>Guideline(s)</u>
Organic chemical manufacturing	40 CFR 414, Subpart(s) D, F, I, and J.

Subpart D = Thermoplastic Resins Chemicals makes up 14% of the production at Westlake Chemical Corporation, Westlake Petrochemicals Complex. New Source Performance Standards (NSPS) are applicable to the discharges from the Poly III Unit.

Subpart F = Commodity Organic Chemicals makes up 86% of the production at Westlake Chemical Corporation, Westlake Petrochemicals Complex. This Subpart is applicable to the discharges from Styrene and Petro I & II.

Subpart I = Direct Discharge Point Sources That Use End-Of-Pipe Biological Treatment.

Subpart J = Direct Discharge Point Sources That Does Not Use End-Of-Pipe Biological Treatment.

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The following wastestreams and flows were used in limitation calculation:

<u>Process</u>	Subpart I <u>Flow, MGD</u>	Subpart J <u>Flow, MGD</u>	Total Combined <u>Flow, MGD</u>
Styrene Unit	---	0.1090	0.1090
Poly III Unit	---	0.2113	0.2113
Petro I Unit	0.5458	---	0.5458
<u>Petro II Unit</u>	<u>0.2942</u>	<u>---</u>	<u>0.2055</u>
TOTAL PROCESS	0.8400	0.3203	1.1603
<u>Sanitary</u>			
Styrene Unit	---	0.0040	0.0040
Poly III Unit	---	0.0003	0.0003
<u>Petro I & II Unit</u>	<u>0.0093</u>	<u>---</u>	<u>0.0093</u>
TOTAL SANITARY	0.0093	0.0043	0.0136
<u>Utility</u>			
Styrene Unit CTBLWDN	---	0.1130	0.1130
Poly III Unit CTBLWDN	---	0.1465	0.1465
Petro I Unit CTBLWDN	0.2690	---	0.2690
Petro I Unit Demin	0.0332	---	0.0332
Petro II Unit CTBLWDN	0.3033	---	0.3033
<u>Petro II Unit Demin</u>	<u>0.1132</u>	<u>---</u>	<u>0.1132</u>
TOTAL PROCESS	0.7187	0.2595	0.9782
 TOTAL FLOWS	 1.5680	 0.5841	 2.1521

PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	Continuous
pH Range Excursions No. of Events >60 minutes	---	--	---	0 (*1)	Continuous
pH Range Excursions Monthly Total Accumulated Time in Minutes	---	--	---	446 (*1)	Continuous
pH (Standard Units)	---	---	Report (*1) (Min)	Report (*1) (Max)	Continuous

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PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
BOD ₅	345	916	---	---	1/week
TSS	533	1720	---	---	1/week
Oil & Grease	179	269	---	---	2/month
Total Copper (*2)	---	1.702	---	---	1/quarter
Total Mercury (*2)	---	0.01175	---	---	1/quarter
Acrylonitrile	0.92	2.32	---	---	1/year
Benzene	0.41	1.31	---	---	1/week
Carbon Tetrachloride	0.51	1.28	---	---	1/year
Chlorobenzene	0.48	1.21	---	---	1/year
Chloroethane	1.02	2.67	---	---	1/year
Chloroform	0.44	1.19	---	---	1/month
1,2-Dichlorobenzene	1.06	3.26	---	---	1/year
1,3-Dichlorobenzene	0.60	1.32	---	---	1/year
1,4-Dichlorobenzene	0.48	1.21	---	---	1/year
1,1-Dichloroethane	0.21	0.57	---	---	1/year
1,2-Dichloroethane	0.96	3.01	---	---	1/year
1,1-Dichloroethylene	0.17	0.34	---	---	1/year
1,2-trans-Dichloroethylene	0.21	0.55	---	---	1/year
1,2-Dichloropropane	1.60	3.73	---	---	1/year
1,3-Dichloropropylyene	0.73	2.43	---	---	1/year
Ethylbenzene	0.60	1.77	---	---	1/month
Methyl Chloride	0.90	2.12	---	---	1/year
Methylene Chloride	0.38	1.08	---	---	1/year

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PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Tetrachloroethylene	0.29	0.83	---	---	1/year
Toluene	0.26	0.76	---	---	1/quarter
1,1,1-Trichloroethane	0.21	0.54	---	---	1/year
1,1,2-Trichloroethane	0.23	0.72	---	---	1/year
Trichloroethylene	0.22	0.56	---	---	1/year
Vinyl Chloride	0.99	2.34	---	---	1/year
2-Chlorophenol	0.22	0.69	---	---	1/year
2,4-Dichlorophenol	0.27	0.78	---	---	1/year
2,4-Dimethylphenol	0.18	0.38	---	---	1/year
4,6-Dinitro-o-Cresol	0.75	2.68	---	---	1/year
2,4-Dinitrophenol	3.72	12.32	---	---	1/year
2-Nitrophenol	0.46	1.10	---	---	1/year
4-Nitrophenol	0.94	2.41	---	---	1/year
Phenol	0.16	0.31	---	---	1/week
Acenaphthene	0.20	0.54	---	---	1/week
Acenaphthylene	0.20	0.54	---	---	1/year
Anthracene	0.20	0.54	---	---	1/year
Benzo (a) anthracene (*2)	0.1147	---	---	---	1/quarter
Benzo (a) pyrene (*2)	0.1147	---	---	---	1/quarter
3,4-Benzofluoranthene	0.21	0.56	---	---	1/year
Benzo (k) fluoranthene	0.20	0.54	---	---	1/year
Bis (2- ethylhexyl) phthalate	0.98	2.64	---	---	1/year

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PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Chrysene	0.20	0.54	---	---	1/year
Diethyl phthalate	0.69	1.72	---	---	1/year
Dimethyl phthalate	0.18	0.45	---	---	1/year
Di-n-butyl phthalate	0.24	0.51	---	---	1/year
2,4-Dinitrotoluene	0.79	2.00	---	---	1/year
2,6-Dinitrotoluene	1.79	4.49	---	---	1/year
Fluoranthene	0.23	0.62	---	---	1/year
Fluorene	0.20	0.54	---	---	1/week
Hexachlorobenzene (*3)	0.012	0.028	---	---	1/quarter
Hexachlorobutadiene	0.52	1.36	---	---	1/6 months
Hexachloroethane	0.67	2.50	---	---	1/year
Naphthalene	0.20	0.54	---	---	1/week
Nitrobenzene	6.16	17.58	---	---	1/year
Phenanthrene	0.20	0.54	---	---	1/week
Pyrene	0.23	0.60	---	---	1/year
1,2,4-Trichlorobenzene	1.00	3.10	---	---	1/year

(*1) The pH shall be within a range of 6.0 - 9.0 Standard Units at all times subject to the continuous monitoring pH range excursion provision in Part II, Paragraph I of the draft permit.

(*2) TMDL Wasteload Allocations. See Water Quality Section and Appendix B-2.

(*3) Water Quality Based Effluent Limitation. See Water Quality Section and Appendix B-2.

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Calculations and basis of permit limitations are found at Appendix A-2 and associated appendices. See below for site-specific considerations.

Site-Specific Consideration(s) for Outfall 001 Phase II

Please note, for the purpose of the section below, the following information references the three Westlake facilities considered in this permit consolidation, their current LPDES permit effective dates, and how they will be identified in the discussion to follow.

- ◆ LA0087157 - Issued to the Styrene Monomer Facility with an effective date of September 1, 2008. This facility will be referred to as Styrene.
- ◆ LA0103004 - Issued to the Poly III Facility with an effective date of May 1, 2004. This facility will be referred to as Poly III.
- ◆ LA0082511 - Issued to the Ethylene (Petro I and II) Facility with an effective date of February 4, 2004 and major modification effective date of May 1, 2007. This facility will be referred to as Petro I & II.

All monitoring frequencies in this section reflect the most stringent frequency previously established for each parameter in the Styrene, Poly III, Petro I & II permits, unless otherwise stated.

Flow - this requirement has been established in accordance with LAC 33:IX.2707.I.1.b. The continuous monitoring frequency requirement has been retained from the current Styrene, Poly III, and Petro I & II LPDES permits.

Flow monitoring occurs at the following locations:

Flow Location 1 - the continuous flow monitoring for wastewaters from the Styrene Unit is accomplished with a flow measuring device for the combined wastewater discharge from the Styrene Unit.

Flow Location 2 - the continuous flow monitoring for wastewaters from the Poly III Unit is accomplished with flow measuring devices for the pellet sump wastewater, the CPI water, the sanitary wastewater discharge, and the cooling tower blowdown from the Poly III Unit.

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Flow Location 3 - the continuous flow monitoring for wastewaters from the Petro I Unit is accomplished with flow measuring devices for the biological treatment unit discharge, the sanitary wastewater discharge, and the cooling tower blowdown from the Petro I Unit.

Flow Location 4 - the continuous flow monitoring for wastewaters from the Petro II Unit is accomplished with a flow measuring device for the combined wastewater discharge from the Petro II Unit.

pH - this requirement has been established in accordance with LAC 33:IX.1113.C.1. The continuous monitoring frequency requirement has been retained from the current Styrene, Poly III, and Petro I & II LPDES permits.

BOD₅ and TSS - monthly average and daily maximum limitations have been established in accordance with OCPSF Guidelines under 40 CFR 414, Subparts D (NSPS) and F with a process wastewater flow of 1.1603 MGD. Additionally, allocations have been granted for sanitary wastewater and utility wastewaters based on best professional judgment. Sanitary allocations are applied to a flow of 0.0136 MGD and based on a 30 mg/L monthly average concentration and 45 mg/L daily maximum concentration for BOD₅ and TSS. Utility wastewater allocations are applied to a flow of 0.9782 MGD and based on a 0.25 fraction of the OCPSF concentrations (6.21 mg/L monthly average and 16.56 mg/L daily maximum, 10.21 mg/L monthly average and 33.165 mg/L daily maximum) for BOD₅ and TSS, respectively. The methodology for establishing BOD₅ and TSS allocations for sanitary and utility wastewaters is consistent with the Styrene and Poly III LPDES permits and has been established in the consolidated permit based on best professional judgment. The monitoring frequency of 1/week has been retained for both parameters based on the frequency established in the current Styrene and Petro I & II LPDES permits.

Benzene, Phenol, Acenaphthene, Fluorene, Naphthalene, and Phenanthrene - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.84 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for these parameters has been retained at 1/week based on the frequency established in the current Petro I & II LPDES permit.

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Oil & Grease - this requirement has been retained from the current Poly III LPDES permit due to the potential for Oil & Grease to be discharged to the receiving waterbody. The limitations have been calculated based on concentrations of 10 mg/L monthly average and 15 mg/L daily maximum and are applied to the entire outfall flow of 2.1521 MGD. The monitoring frequency has been retained at 2/month based on the frequency established in the current Poly III LPDES permit.

Ethylbenzene and Chloroform - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.84 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for these parameters has been retained at 1/month based on the frequency established in the current Styrene LPDES permit.

Total Copper, Total Mercury, Benzo(a)anthracene, and Benzo(a)pyrene - loadings have been established at this outfall per the Upper Calcasieu Estuary TMDL, issued in the Federal Register on June 13, 2002. A monitoring frequency of 1/quarter has been established for these parameters based on the sampling requirements established in the TMDL.

Hexachlorobenzene - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.84 MGD flow under Subpart I and 0.3203 MGD for Subpart J. Additionally, water quality based effluent limitations were established using guidance procedures presented in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. The monitoring frequency for this parameter has been retained at 1/quarter based on the frequency established in the current Petro I & II LPDES permit and is consistent with the EPA Region VI recommendation that all water quality based effluent limitations receive a 1/quarter (or more frequent) monitoring frequency.

Toluene - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.84 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for this parameter has been retained at 1/quarter based on the frequency established in the current Styrene LPDES permit.

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Hexachlorobutadiene - monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.84 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for this parameter has been retained at 1/6 months based on the frequency established in the current Poly III LPDES permit.

Acrylonitrile, Carbon Tetrachloride, Chlorobenzene, Chloroethane, 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, 1,1-Dichloroethane, 1,2-Dichloroethane, 1,1-Dichloroethylene, 1,2-trans-Dichloroethylene, 1,2-Dichloropropane, 1,3-Dichloropropylene, Methyl Chloride, Methylene Chloride, Tetrachloroethylene, 1,1,1-Trichloroethane, 1,1,2-Trichloroethane, Trichloroethylene, Vinyl Chloride, 2-Chlorophenol, 2,4-Dichlorophenol, 2,4-Dimethylphenol, 4,6-Dinitro-o-Cresol, 2,4-Dinitrophenol, 2-Nitrophenol, 4-Nitrophenol, Acenaphthylene, Anthracene, 3,4-Benzofluoranthene, Benzo(k)fluoranthene, Bis(2-ethylhexyl)phthalate, Chrysene, Diethyl phthalate, Dimethyl phthalate, Di-n-butyl phthalate, 2,4-Dinitrotoluene, 2,6-Dinitrotoluene, Fluoranthene, Hexachloroethane, Nitrobenzene, Pyrene, and 1,2,4-Trichlorobenzene -monthly average and daily maximum limitations have been established to ensure compliance with the OCPSF Guidelines under 40 CFR Part 414, Subparts I and J and were calculated using 0.84 MGD flow under Subpart I and 0.3203 MGD for Subpart J. The monitoring frequency for these parameters has been retained at 1/year based on the frequency established in the current Styrene, Poly III, and Petro I & II LPDES permits.

2. Internal Outfalls 101, 401, and 501 - Treated Sanitary Wastewaters

*Internal Outfall 101 - the intermittent discharge of treated sanitary wastewater from the Petro I and II Units.

Sanitary wastewater that is included as a part of the process wastewater stream receive BPJ allocations for BOD₅ and TSS loading(s) to the process wastewaters at Appendices A-1 and A-2.

Sanitary wastewaters (internal or external) are regulated in accordance with LAC 33:IX.711 or 709.B, by BPJ utilizing the sanitary general permits issued by this Office, and the Louisiana Water Quality Management Plan, Areawide Sanitary Effluent Limits Policy and Statewide Sanitary Effluent Limits Policy, as applicable. Concentration limits are used in accordance with LAC 33:IX.2707.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement.

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PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/quarter
Fecal Coliform colonies/100ml	---	---	200	400	1/quarter

Site-Specific Consideration(s) for Internal Outfall 101

Flow - this requirement has been established in accordance with LAC 33:IX.2707.I.1.b. The 1/quarter monitoring frequency requirement has been established based on best professional judgment to be consistent with the frequencies established in the Sanitary General Permit, LAG540000 for flows between 0.005 MGD and 0.025 MGD.

Fecal Coliform - the 200 colonies/100 ml monthly average, 400 colonies/100 ml daily maximum limitation, and the 1/quarter monitoring frequency requirement has been established based on best professional judgment to be consistent with the frequencies established in the Sanitary General Permit, LAG540000 for flows between 0.005 MGD and 0.025 MGD.

*Internal Outfall 401 - the intermittent discharge of treated sanitary wastewater from the Styrene Plant.

*Internal Outfall 501 - the intermittent discharge of treated sanitary wastewater from the Poly III Plant.

Sanitary wastewater that is included as a part of the process wastewater stream receive BPJ allocations for BOD₅ and TSS loading(s) to the process wastewaters at Appendices A-1 and A-2.

Sanitary wastewaters (internal or external) are regulated in accordance with LAC 33:IX.711 or 709.B, by BPJ utilizing the sanitary general permits issued by this Office, and the Louisiana Water Quality Management Plan, Areawide Sanitary Effluent Limits Policy and Statewide Sanitary Effluent Limits Policy, as applicable. Concentration limits are used in accordance with LAC 33:IX.2707.F.1.b which states that mass limitations are not necessary when applicable standards and limitations are expressed in other units of measurement.

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PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/6 months
Fecal Coliform colonies/100ml	---	---	200	400	1/6 months

Site-Specific Consideration(s) for Internal Outfalls 401 and 501

Flow - this requirement has been established in accordance with LAC 33:IX.2707.I.1.b. The 1/6 months monitoring frequency requirement has been retained from the current Styrene and Poly III LPDES permits and is consistent with the requirements established in the Sanitary General Permit, LAG530000, for flows up to 0.005 MGD.

Fecal Coliform - monthly average and daily maximum limitations of 200 colonies/100 ml and 400 colonies/100 ml have been established with a 1/6 months monitoring frequency requirement based on best professional judgment. These requirements are consistent with the requirements established in the Sanitary General Permit, LAG530000, for flows up to 0.005 MGD.

3. Outfall 006 - Stormwater & Utility Wastewater

*Outfall 006 - the intermittent discharge of uncontaminated, non-process area stormwater runoff from throughout the Westlake Petrochemicals Complex including the secondary containment area around the hexane and butane tanks near the Co-Products Storage area; utility fire test water overflow; firewater pump cooling and test water; excess clarifier/utility water; demineralization unit overflow; excess post-first flush stormwater runoff from the process areas at the Petro II and Poly III Units; steam condensate; lay down yard; contractor areas; and other miscellaneous non-contact wastewater and wash waters.

Uncontaminated or low potential contaminated stormwater discharged through discrete outfall(s) not associated with process wastewater shall receive the following BPJ limitations in accordance with this Office's guidance on stormwater, letter dated 6/17/87, from J. Dale Givens (LDEQ) to Myron Knudson (EPA Region 6).

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PARAMETER(S)	MASS, LBS/DAY unless otherwise stated		CONCENTRATION, MG/L unless otherwise stated		MEASUREMENT FREQUENCY
	MONTHLY AVERAGE	DAILY MAXIMUM	MONTHLY AVERAGE	DAILY MAXIMUM	
Flow, MGD	Report	Report	---	---	1/quarter
TOC	---	---	---	50	1/quarter
Oil & Grease	---	---	---	15	1/quarter
pH Standard Units	---	---	6.0 (min)	9.0 (max)	1/quarter

Site-Specific Consideration(s) for Outfall 006

Flow - this requirement has been established in accordance with LAC 33:IX.2707.I.1.b. The 1/quarter monitoring frequency requirement is consistent with the frequency established in the Multi-Sector General Permit for Industrial Stormwater Discharges, LAR050000 and Schedule C of the Light Commercial General Permit, LAG480000, for utility wastewaters.

TOC and Oil & Grease - daily maximum limitations have been established at a frequency of 1/quarter for both parameters. These requirements are consistent with the requirements established in the Multi-Sector General Permit for Industrial Stormwater Discharges, LAR050000 and Schedule C of the Light Commercial General Permit, LAG480000, for utility wastewaters.

pH - this requirement has been established in accordance with LAC 33:IX.1113.C.1. The 1/quarter monitoring frequency requirement is consistent with the frequency established in the Multi-Sector General Permit for Industrial Stormwater Discharges, LAR050000 and Schedule C of the Light Commercial General Permit, LAG480000, for utility wastewaters.

In accordance with LAC 33:IX.2707.I.3 and 4 [40 CFR 122.44(I)(3) and (4)], a Part II condition is proposed for applicability to all storm water discharges from the facility, either through permitted outfalls or through outfalls which are not listed in the permit or as sheet flow. For first time permit issuance, the Part II condition requires a Storm Water Pollution Prevention Plan (SWP3) within six (6) months of the effective date of the final permit. For renewal permit issuance, the Part II condition requires that the Storm Water Pollution Prevention Plan (SWP3) be reviewed and updated, if necessary, within six (6) months of the effective date of the final permit. If the permittee maintains other plans that contain duplicative information, those plans could be incorporated by

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reference to the SWP3. Examples of these type plans include, but are not limited to: Spill Prevention Control and Countermeasures Plan (SPCC), Best Management Plan (BMP), Response Plans, etc. The conditions will be found in the draft permit. Including Best Management Practice (BMP) controls in the form of a SWP3 is consistent with other LPDES and EPA permits regulating similar discharges of stormwater associated with industrial activity, as defined in LAC 33:IX.2511.B.14 [40 CFR 122.26(b)(14)].

C. WATER QUALITY-BASED EFFLUENT LIMITATIONS

Technology-based effluent limitations and/or specific analytical results from the permittee's application were screened against state water quality numerical standard based limits by following guidance procedures established in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. Calculations, results, and documentation are given in Appendix B.

In accordance with LAC 33:IX.2707.D.1/40 CFR § 122.44(d)(1), the existing (or potential) discharge (s) was evaluated in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008, to determine whether pollutants would be discharged "at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard." Calculations, results, and documentation are given in Appendices B-1, B-2, and B-3.

The following pollutants received water quality based effluent limits:

<u>POLLUTANT(S)</u>
Total Copper
Total Mercury
Benzo(a)anthracene
Benzo(a)pyrene
Hexachlorobenzene

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Minimum quantification levels (MQL's) for state water quality numerical standards-based effluent limitations are set at the values listed in the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008. They are also listed in Part II of the permit.

TMDL Waterbodies

Outfalls 001 (Phases I & II) and 006

The discharges from Westlake Chemical Corporation, Westlake Petrochemicals Complex consists of the continuous discharge of the combined wastewaters from the Styrene, Poly III, and Petro I & II Units including: treated process wastewaters; utility wastewaters; process area stormwater; treated sanitary wastewater from Internal Outfalls 101, 401, and 501; and miscellaneous wastewater including but not limited to general facility washdown, steam condensate, eye wash and safety shower station, firewater, and pump seal water (Outfall 001) to the Calcasieu River, and uncontaminated, non-process area stormwater runoff from throughout the Westlake Petrochemicals Complex including the secondary containment area around the hexane and butane tanks near the Co-Products Storage area; utility fire test water overflow; firewater pump cooling and test water; excess clarifier/utility water; demineralization unit overflow; excess post-first flush stormwater runoff from the process areas at the Petro II and Poly III Units; steam condensate; lay down yard; contractor areas; and other miscellaneous non-contact wastewater and wash waters (Outfall 006) to Indian Marias, Segment No. 030301. Subsegment 030301 was not on the 2006 Final Integrated list of impairments due to the Upper Calcasieu Estuary Toxics TMDL being issued June 13, 2002. This TMDL addressed Ammonia (as N), Copper, Mercury, Benzo(a)anthracene, and Benzo(a)pyrene.

Outfall 001 - Ammonia (as N)

The TMDL for Toxics for the Calcasieu Estuary was finalized on June 13, 2002, addressing the presence of toxic substances, including Ammonia (as N) in the watershed. The TMDL did not assign loadings to the facilities through this TMDL. However, it did require retention of limitations at existing levels if the current LPDES permit already included a limitation. The current LPDES permits issued to Westlake Styrene, Poly III, and Ethylene did not include Ammonia (as N) limitations, therefore, no additional requirements were added at this outfall.

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Outfall 001 - -Copper, Mercury, Benzo(a)anthracene, and Benzo(a)pyrene

The TMDL on Toxics for the Calcasieu Estuary was finalized on June 13, 2002, addressing the presence of toxic substances, including Copper, Mercury, Benzo(a)anthracene, and Benzo(a)pyrene in the watershed.

The Westlake Chemical Corporation's Westlake Petrochemicals Complex has requested consolidation of three existing LPDES permits into a single permit. The consolidated permit limitations for the TMDL parameters reflects the sum of the loadings allocated for each parameter for LPDES Permits LA0087157, LA0103004, and LA0082511.

The following limits have been applied at Outfall 001 (Phases I and II):

POLLUTANT	LA0087157	LA0103004	LA0082511	TOTAL MONTHLY AVERAGE LIMIT LBS/DAY	TOTAL DAILY MAX LIMIT LBS/DAY
Copper	0.227 lbs/day daily maximum	0.185 lbs/day daily maximum	1.29 lbs/day daily maximum	---	1.702 (*)
Mercury	0.00157 lbs/day daily maximum	0.00127 lbs/day daily maximum	0.00891 lbs/day daily maximum	---	0.01175 (*)
Benzo(a) Anthracene	0.0153 lbs/day monthly average	0.0124 lbs/day monthly average	0.087 lbs/day monthly average	0.1147	---
Benzo(a) Pyrene	0.0153 lbs/day monthly average	0.0124 lbs/day monthly average	0.087 lbs/day monthly average	0.1147	—

(*) The permittee may choose to use Clean Techniques for monitoring Total Copper and Total Mercury, however, use of this technique is optional as long as Westlake uses an approved EPA method for analysis.

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Outfall 006 - Ammonia (as N)

The TMDL for Toxics for the Calcasieu Estuary was finalized on June 13, 2002, addressing the presence of toxic substances, including Ammonia (as N) in the watershed. The TMDL did not assign loadings to the facilities through this TMDL. However, it did require retention of limitations at existing levels if the current LPDES permit already included a limitation. The current LPDES permits issued to Westlake Styrene, Poly III, and Ethylene did not include Ammonia (as N) limitations at any stormwater outfall, therefore, no additional requirements were added in this permit.

Outfall 006 - Total Copper and Total Mercury

The minimum quantification level (MQL) listed in Part II.K of the permit for Total Copper is 10 µg/L and 0.2 µg/L for Total Mercury. In accordance with the results submitted in the permit application, both parameters were present at levels below their respective MQLs. LDEQ has determined that Total Copper and Total Mercury are not reasonably expected to cause or contribute to further impairments in the Calcasieu River. Therefore, reporting requirements were not established for these parameters at this outfall.

Outfall 006 - Benzo(a)anthracene and Benzo(a)pyrene

these pollutants are typically associated with process wastewaters, therefore are not reasonably expected to be present in discharges containing low contamination potential stormwater runoff and utility wastewaters. Therefore, no additional requirements were added to this outfall.

Monitoring frequencies for water quality based limited parameters are established in accordance with the Permitting Guidance Document for Implementing Louisiana Surface Water Quality Standards, LDEQ, April 16, 2008.

D. Biomonitoring Requirements

It has been determined that there may be pollutants present in the effluent which may have the potential to cause toxic conditions in the receiving stream. The State of Louisiana has established a narrative criteria which states, "toxic substances shall not be present in quantities that alone or in combination will be toxic to plant or animal life." The Office of Environmental Services requires the use of the most recent EPA biomonitoring protocols.

Whole effluent biomonitoring is the most direct measure of potential toxicity which incorporates both the effects of synergism of effluent components and receiving stream water quality characteristics. Biomonitoring of the effluent is, therefore, required as a condition of this permit to assess potential toxicity.

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The biomonitoring procedures stipulated as a condition of this permit for Outfall(s) 001 are as follows:

TOXICITY TESTS

FREQUENCY

Chronic static renewal 7-day
 survival and growth test
 using Mysidopsis bahia
 [Method 1007.0]

1/quarter

Chronic static renewal 7-day
 larval survival and growth test
 using inland silverside minnow
 (Menidia beryllina) [Method 1006.0]

1/quarter

Toxicity tests shall be performed in accordance with protocols described in the latest revision of the "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms." The stipulated test species are appropriate to measure the toxicity of the effluent consistent with the requirements of the State water quality standards. The biomonitoring frequency has been established to reflect the likelihood of ambient toxicity and to provide data representative of the toxic potential of the facility's discharge in accordance with regulations promulgated at LAC 33:IX.2715/40 CFR Part 122.48.

Results of all dilutions as well as the associated chemical monitoring of pH, temperature, hardness, dissolved oxygen, conductivity, and salinity shall be documented in a full report according to the test method publication mentioned in the previous paragraph. The permittee shall submit a copy of the first full report to the Office of Environmental Compliance. The full report and subsequent reports are to be retained for three (3) years following the provisions of Part III.C.3 of this permit. The permit requires the submission of certain toxicity testing information as an attachment to the Discharge Monitoring Report.

This permit may be reopened to require effluent limits, additional testing, and/or other appropriate actions to address toxicity if biomonitoring data show actual or potential ambient toxicity to be the result of the permittee's discharge to the receiving stream or water body. Modification or revocation of the permit is subject to the provisions of LAC 33:IX.3105/40 CFR 124.5. Accelerated or intensified toxicity testing may be required in accordance with Section 308 of the Clean Water Act.

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Dilution Series

The permit requires five (5) dilutions in addition to the control (0% effluent) to be used in the toxicity tests. These additional effluent concentrations shall be 0.15%, 0.20%, 0.26%, 0.35%, and 0.46%. The low-flow effluent concentration (critical dilution) is defined as 0.35% effluent. This dilution series is applicable to Phases I and II in accordance with the recommendation attached in Appendix D of this Fact Sheet and Rationale.

X. Compliance History/DMR Review:

A compliance history/DMR review has been done for the Styrene (LA0087157), Poly III (LA0103004), and Ethylene (LA0082511) LPDES Permits, from January 2006 through April 2009.

A. DMR Excursions

The following excursions were reported during this time frame:

STYRENE - LA0087157

<u>DATE</u>	<u>PARAMETER</u>	<u>OUTFALL</u>	<u>REPORTED VALUE</u>		<u>PERMIT LIMITS</u>	
			<u>MONTHLY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>MONTHLY AVERAGE</u>	<u>DAILY MAXIMUM</u>
6/30/07	pH	001	---	1 excursion > 60 min	---	0 excursions > 60 min
12/31/08	BOD ₅	001	>27 lbs/day	>77 lbs/day	37 lbs/day	99 lbs/day

POLY III (LA0103004)

<u>DATE</u>	<u>PARAMETER</u>	<u>OUTFALL</u>	<u>REPORTED VALUE</u>		<u>PERMIT LIMITS</u>	
			<u>MONTHLY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>MONTHLY AVERAGE</u>	<u>DAILY MAXIMUM</u>
9/30/06	TSS	001	81.2 lbs/day	219.8 lbs/day	46 lbs/day	150 lbs/day
8/31/07	TSS	001	56.1 lbs/day	157.3 lbs/day	46 lbs/day	150 lbs/day
1/31/08	TSS	001	> 96.0 lbs/day	314.5 lbs/day	46 lbs/day	150 lbs/day

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ETHYLENE (LA0082511)

<u>DATE</u>	<u>PARAMETER</u>	<u>OUTFALL</u>	<u>REPORTED VALUE</u>		<u>PERMIT LIMITS</u>	
			<u>MONTHLY AVERAGE</u>	<u>DAILY MAXIMUM</u>	<u>MONTHLY AVERAGE</u>	<u>DAILY MAXIMUM</u>
9/30/07	pH	201	---	1 excursion > 60 min	---	0 excursions > 60 min
9/30/07	pH	201	---	507 total accum. minutes	---	<446 total accum. minutes
6/30/08	Total Mercury	001	---	0.0114 lbs/day	---	0.0089 lbs/day
9/30/08	Benzene	001	0.47 lbs/day	2.36 lbs/day	0.21 lbs/day	0.76 lbs/day
9/30/08	Naphthalene	001	0.13 lbs/day	0.63 lbs/day	0.12 lbs/day	0.33 lbs/day
12/31/08	Acenaphthyl ene	001	---	0.37 lbs/day	---	0.33 lbs/day
2/29/09	Benzene	001	0.80 lbs/day	3.19 lbs/day	0.21 lbs/day	0.76 lbs/day

B. Inspections

STYRENE - LA0087157

The last Compliance Evaluation Inspection was conducted on June 27, 2007. The inspector did not note any areas of concern.

POLY III - LA0103004

The last Compliance Evaluation Inspection was conducted on October 25, 2007. The inspector noted two TSS exceedances during the DMR review. No other areas of concern were noted.

ETHYLENE - LA0082511

The last Compliance Evaluation Inspection was conducted on September 19, 2007. The inspector noted one Acenaphthalene exceedance during the DMR review. No other areas of concern were noted.

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C. Enforcement Orders (including all open orders)

STYRENE - LA0087157

Water - None

Air - None

Solid/Hazardous Waste - None

Radiation - None

POLY III - LA0103004

Water - NONE

Air - Consolidated Compliance Order and Notice of Potential
Penalty, Tracking Number AE-CN-03-0068 issued on
December 2, 2005.

Solid/Hazardous Waste - None

Radiation - None

ETHYLENE - LA0082511

Water - Enforcement Order WE-CN-02-0248, effective on
October 17, 2002 for:

1. Failure to maintain records.
2. Improper use of Method 2540 D.
3. Unclean environment for funnel used in sampling.
4. Failure to take samples at Outfalls 003 and 004
in July 2000.
5. Unauthorized discharges in April and July 2001.
6. Multiple DMR excursions between January 1999 and
March 2002.

Air - Notice of Potential Penalty, Tracking Number AE-PP-02-
0296 issued on November 18, 2003.

Consolidated Compliance Order and Notice of Potential
Penalty, Tracking Number AE-CN-03-0416 issued on July
14, 2005.

Penalty Assessment Tracking Number AE-P-06-0026 issued
on May 4, 2006.

Solid/Hazardous Waste - None

Radiation - None

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XI. "IT" Questions

The "IT" Questions along with the applicant's responses can be found in the Permit Application Addendum dated February 13, 2009. This document can be viewed at:

<http://edms.deq.louisiana.gov/app/doc/view.aspx?doc=40030483>

XII. Endangered Species:

The receiving waterbody, Subsegment 030301 of the Calcasieu River Basin is not listed in Section II.2 of the Implementation Strategy as requiring consultation with the U.S. Fish and Wildlife Service (FWS). This strategy was submitted with a letter dated November 17, 2008 from Rieck (FWS) to Nolan (LDEQ). Therefore, in accordance with the Memorandum of Understanding between the LDEQ and the FWS, no further informal (Section 7, Endangered Species Act) consultation is required. The effluent limitations established in the permit ensure protection of aquatic life and maintenance of the receiving water as aquatic habitat. Therefore, the issuance of the LPDES permit is not likely to have an adverse effect on any endangered or candidate species or the critical habitat.

XIII. Historic Sites:

The discharge is from an existing facility location, which does not include an expansion on undisturbed soils. Therefore, there should be no potential effect to sites or properties on or eligible for listing on the National Register of Historic Places, and in accordance with the "Memorandum of Understanding for the Protection of Historic Properties in Louisiana Regarding LPDES Permits" no consultation with the Louisiana State Historic Preservation Officer is required.

XIV. Tentative Determination:

On the basis of preliminary staff review, the Department of Environmental Quality has made a tentative determination to permit for the discharge described in the application.

XV. Variances:

No requests for variances have been received by this Office.

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XVI. Public Notices:

Upon publication of the public notice, a public comment period shall begin on the date of publication and last for at least 30 days thereafter. During this period, any interested persons may submit written comments on the draft permit and may request a public hearing to clarify issues involved in the permit decision at this Office's address on the first page of the fact sheet and rationale. A request for a public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing.

Public notice published in:

Local newspaper of general circulation

Office of Environmental Services Public Notice Mailing List